

I. FORMAL MATTERS

On page 2 the Office Action objects to the drawings under 35 C.F.R. § 1.83(a) for allegedly not showing every feature of the invention specified in the claims. In particular, the drawings are objected to for not showing the heat generating source of claim 3, the solar cell of claim 4, the wind turbine of claim 5, and the flywheel apparatus of claim 13.

Applicants respectfully assert that the drawings provided with the originally filed application show all the features that are claimed and that neither further amendment to the drawings or cancellation of the features from the claims is required. In particular, Applicants call the Examiner's attention to the specific wording of 37 C.F.R. § 1.83(a), which states that:

[T]he drawings in a non-provisional application must show every feature of the invention specified in the claims. However, conventional features disclosed in the description and claims, where their detailed illustration is not essential for a proper understanding of the invention, should be illustrated in the drawings in the form of a graphical drawing symbol or label representation (e.g., a label rectangular box).

Taking, for example, the heat generating source driving a prime mover recited in claim 3, Applicants note that micromachinery is commonly used in spacecraft applications. Such micromachinery includes heat generating sources and prime movers. The prime mover can be a small scale turbine. Such micromachinery is described, for example, in U.S. Patent 6,392,313. The heat generating source in this particular application, as discussed in the specification at least at page 4, line 4, may be a radioactive material capable of generating heat. As one of ordinary skill in the art would know, the heat generated by the radioactive material (e.g., plutonium 239), may be used to heat a working fluid, such as water, which in turn is converted to steam to drive the prime mover. The prime mover then turns a generator that generates electrical power, which may be AC power or DC power, depending on the configuration of the generator. The use of a heat generating source and prime mover as described above, is well known in the art, and is the subject of numerous issued U.S. patents.

A common and well-known example of a solar cell used for generation of DC electrical power from sunlight is the photovoltaic (PV) cell, which has been used in space missions and other applications since the 1960s. One particular use for PV cells is battery charging for sailboats and small motor craft.

Similarly, wind turbines and flywheel devices are common features for generating and storing electrical energy, respectively.